# **SERVICE MANUAL**

AEP Model UK Model E Model

This set is the stereo amplifier section in LBT-V702/V702CD/V702CDG



#### **SPECIFICATIONS**

Continuous RMS power output

60 W + 60 W

(6 ohms, at 1 kHz, 5% THD)

50 W + 50 W

(6 ohms, DIN, 1 kHz)

Music power output

90 W + 90 W

(6 ohms, at 1 kHz, 10% THD)

Input	Jack type	Sensitivity	Impedance
PHONO	Phono	2.5 mV	47 kohms
VIDEO1/DAT	Phono	180 mV	47 kohms
VIDEO2	Phono	180 mV	47 kohms
CD	Phono	180 mV	47 kohms
MIC	Phone	0.8 mV	10 kohms

Output	Jack type	Voltage	Impedance				
VIDEO1/DAT	Phono	150 mV	V 2 kohms				
SURROUND SPEAKER	Phono	Accepts speal ohms	kers of 8 to 16				
HEADPHONES	Stereophone	Accepts headphones of 8 ohms or more					

Frequency response Power requirements

Power consumption

AC outlet Weight Dimensions CD: 10 Hz to 50 kHz  $^{+0}_{-3}$  dB UK model: 240 V AC, 50/60 Hz

AEP model: 220 V AC, 50/60 Hz

E model: 120/220/240V AC

adjustable, 50/60Hz.

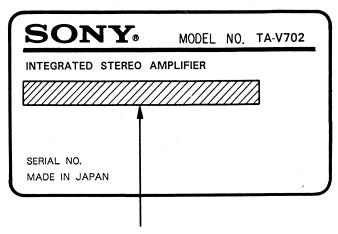
UK model: 350 W AEP model: 150W E model: 175W 1 unswitched, 100 W max. Approx. 6.2 kg (13 lbs 11 oz) Approx. 355  $\times$  130  $\times$  326 mm (w/h/d, including projections) (14  $\times$  5½  $\times$  12½ inches)



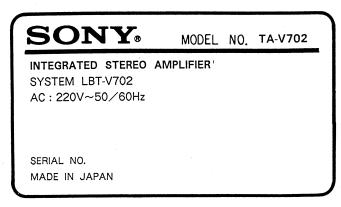


#### MODEL IDENTIFICATION

-Specification Label-



West Germany Model:



AEP Model: AC: 220V~50/60Hz Italian Model: AC: 220V~50/60Hz UK Model: AC: 240V~50/60Hz

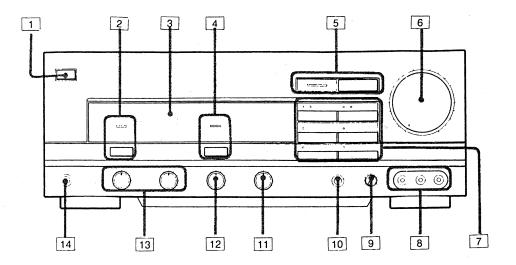
E, Saudi Arabia Model: AC: 120V/220V/240V~50/60Hz 175W

#### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK A OR DOTTED LINE WITH MARK A ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUB-LISHED BY SONY.

# **SECTION 1 GENERAL**

# PARTS IDENTIFICATION



- 1 POWER switch
- 2 EQ REC (equalizer recording) button and indicator 3 Display window
- 4 DBFB (dynamic bass feedback) button and indicator (AEP, UK, West Germany and Italian model) SAT (Super Acoustic Turbo) button and indicator (E, Saudi Arabia model)
- 5 CD DIRECT button and indicator
- 6 VOLUME control
- 7 FUNCTION selectors and indicator

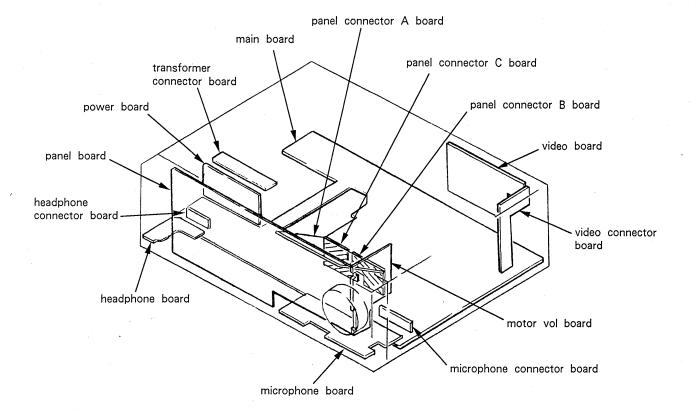
red: audio

Every time you press the VIDEO 1/DAT and VIDEO 2 buttons, audio and video source is switched.

- 8 VIDEO 2 INPUT jacks
- 9 MIC (microphone) LEVEL control
- 10 MIC (microphone) jack
- 11 BALANCE control
- 12 DBFB LEVEL control (AEP, UK, West Germany and Italy model) SAT LEVEL control (E, Saudi Arabia model)
- 13 BASS and TREBLE tone controls
- 14 HEADPHONES jack

# SECTION 2 DIAGRAMS

# 2-1. PC BOARDS LOCATION



# 2-2. SEMICONDUCTOR LEAD LAYOUTS

M5F7810

RBV-602-01





M5F7910







DTA124ES DTC124ES 2SC2603-EF 2SC3622A-LK







2SA1175-HFE







2SB1187-EF



188120



2SC1841-PAFAEA



# 2-3. PRINTED WIRING BOARDS

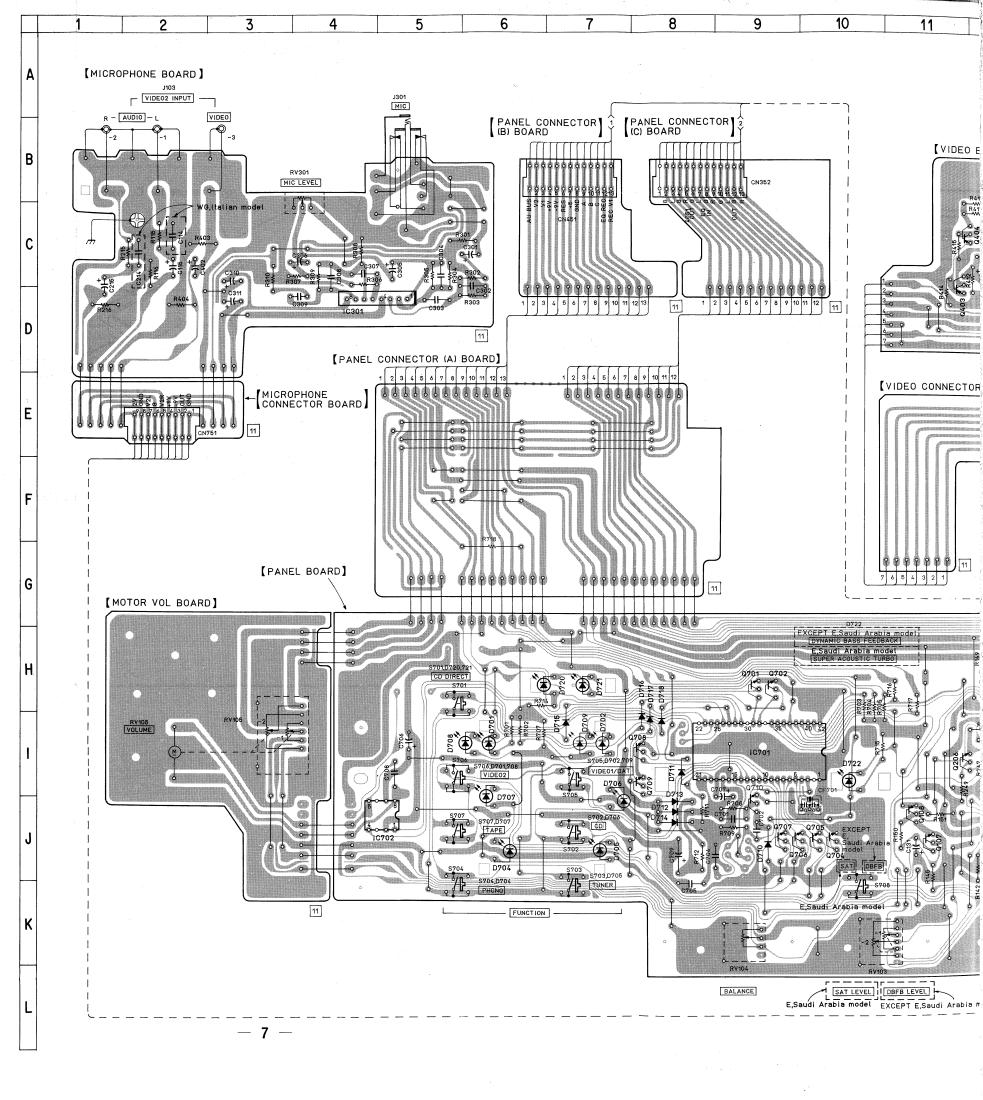
• See Page 5 for Semiconductor Lead Layout.

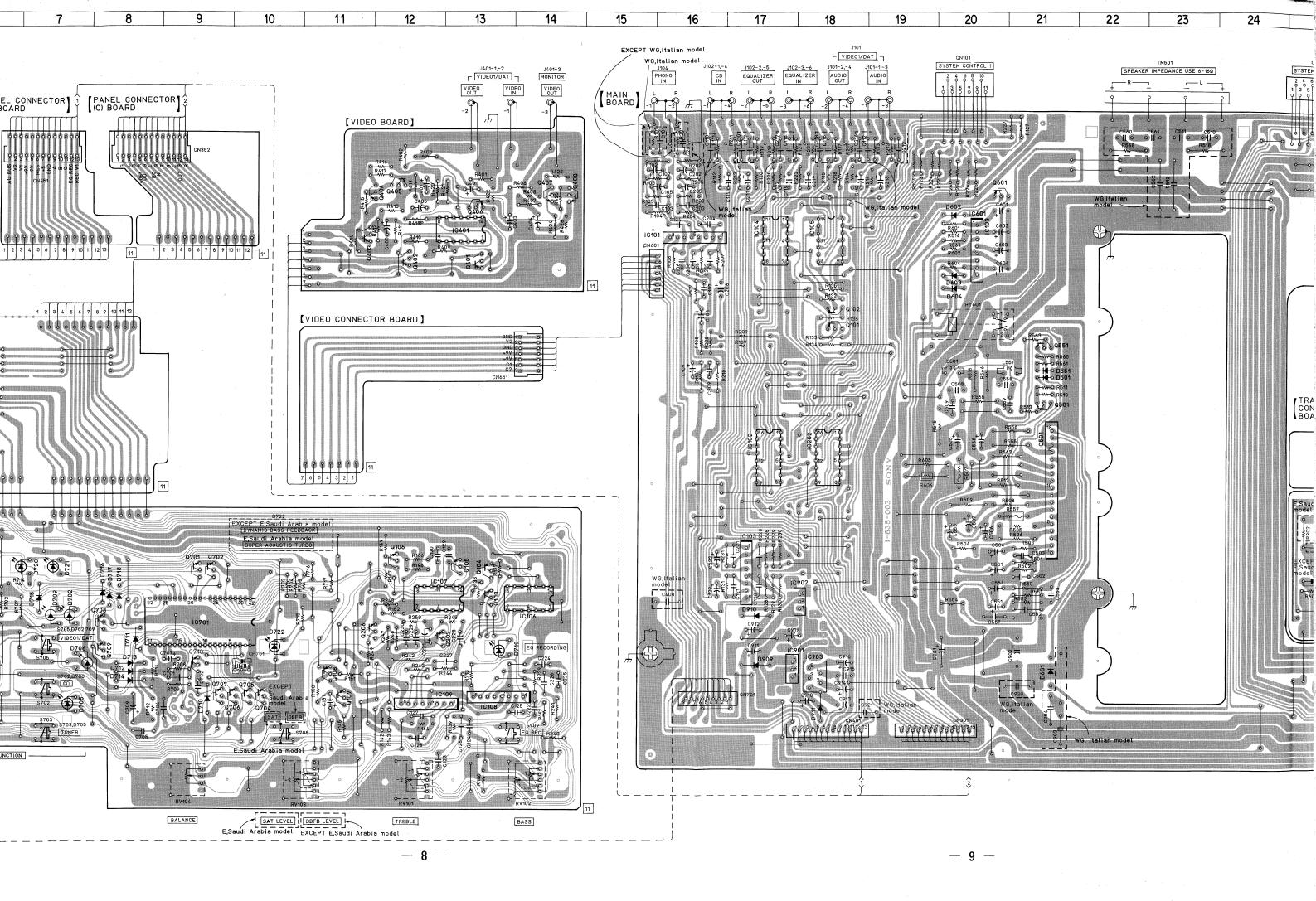
# • SEMICONDUCTOR LOCATION

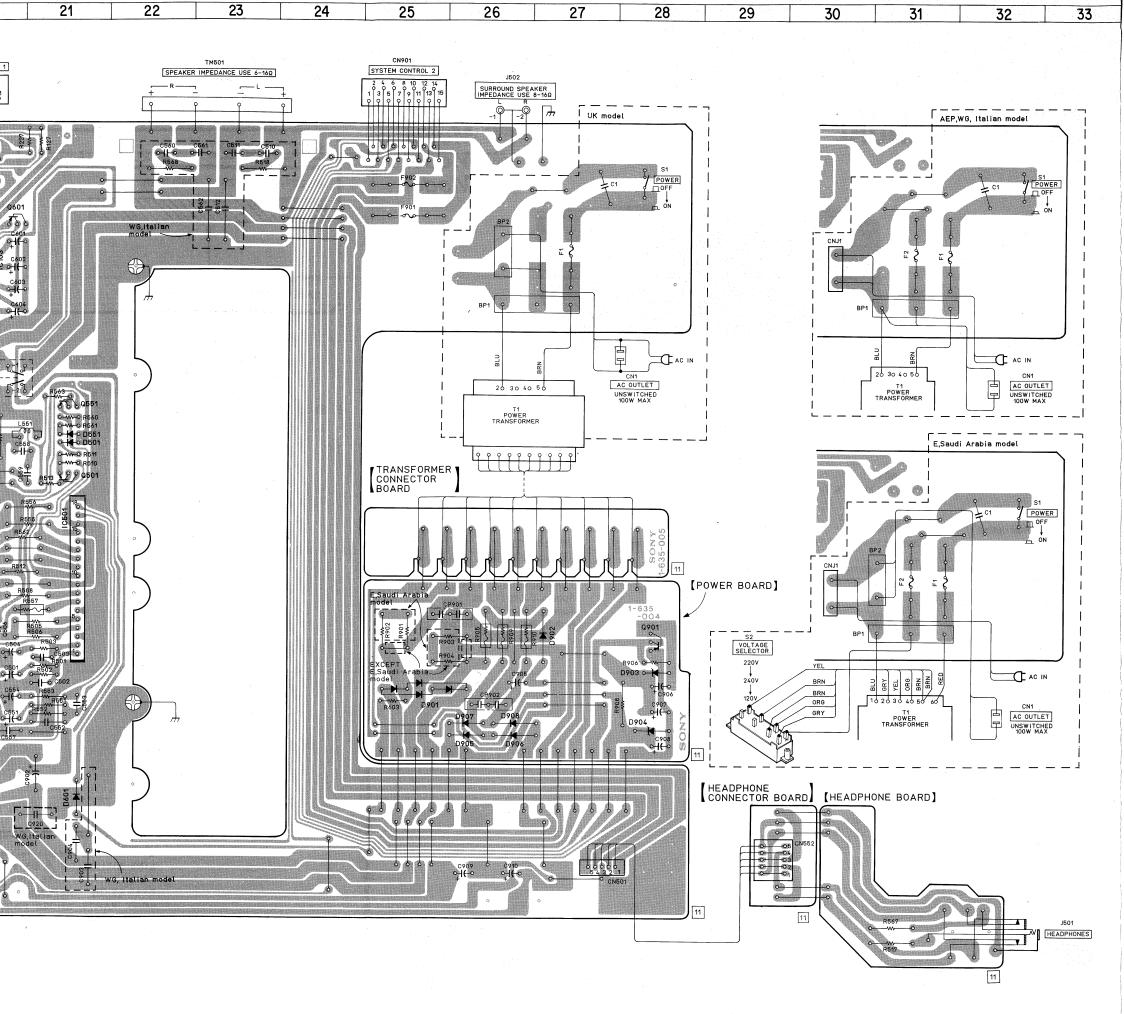
Ref. No.	Location	Ref. No.	Location
IC101 IC102 IC103 IC104 IC105	C-16 G-17 H-17 C-17 C-18	Q706 Q707 Q708 Q709 Q710 Q901	J-9 J-9 I-8 I-8 J-9 H-28
IC106 IC107 IC108 IC109 IC202	I-14 I-12 J-13 J-12 G-18	D501 D551 D601	E-21 E-21 J-21 C-20
IC301 IC401	D-4 C-13	D603	D-20
IC501 IC601 IC701	G-21 D-20 I-9	D604 D701 D702 D704	D-20 I-6 I-7 J-6
IC702 IC901 IC902	J-5 J-17 I-18	D705 D706	J-7
IC903	J-18	D707 D708 D709	1-6 1-6 1-7
Q101 Q102 Q103 Q104 Q105	E-18 E-18 I-13 H-13 H-13	D710 D711 D712 D713	J-9 I-8 J-8
Q106 Q107	H-12 J-11	D714 D715	J-8 I-7
Q108 Q206 Q207	J-11 I-11 I-12	D716 D717 D718 D719	I-8 I-8 I-8 I-13
Q401 Q402 Q403	D-13 D-12 D-11	D720 D721	H-7 H-7
Q404 Q405	C-12 C-12	D722 D901 D902	I-10 H-25 H-27
Q406 Q407 Q408	C-13 C-14 C-14	D903 D904	H-28 I-28
Q501 Q551	F-21 E-21	D905 D906 D907	I-26 I-26 I-26
Q601 Q701 Q702	C-20 H-9 H-9	D908	I-26 J-17
Q704 Q705	J-10 J-10	D910 D911	I-17 J-18

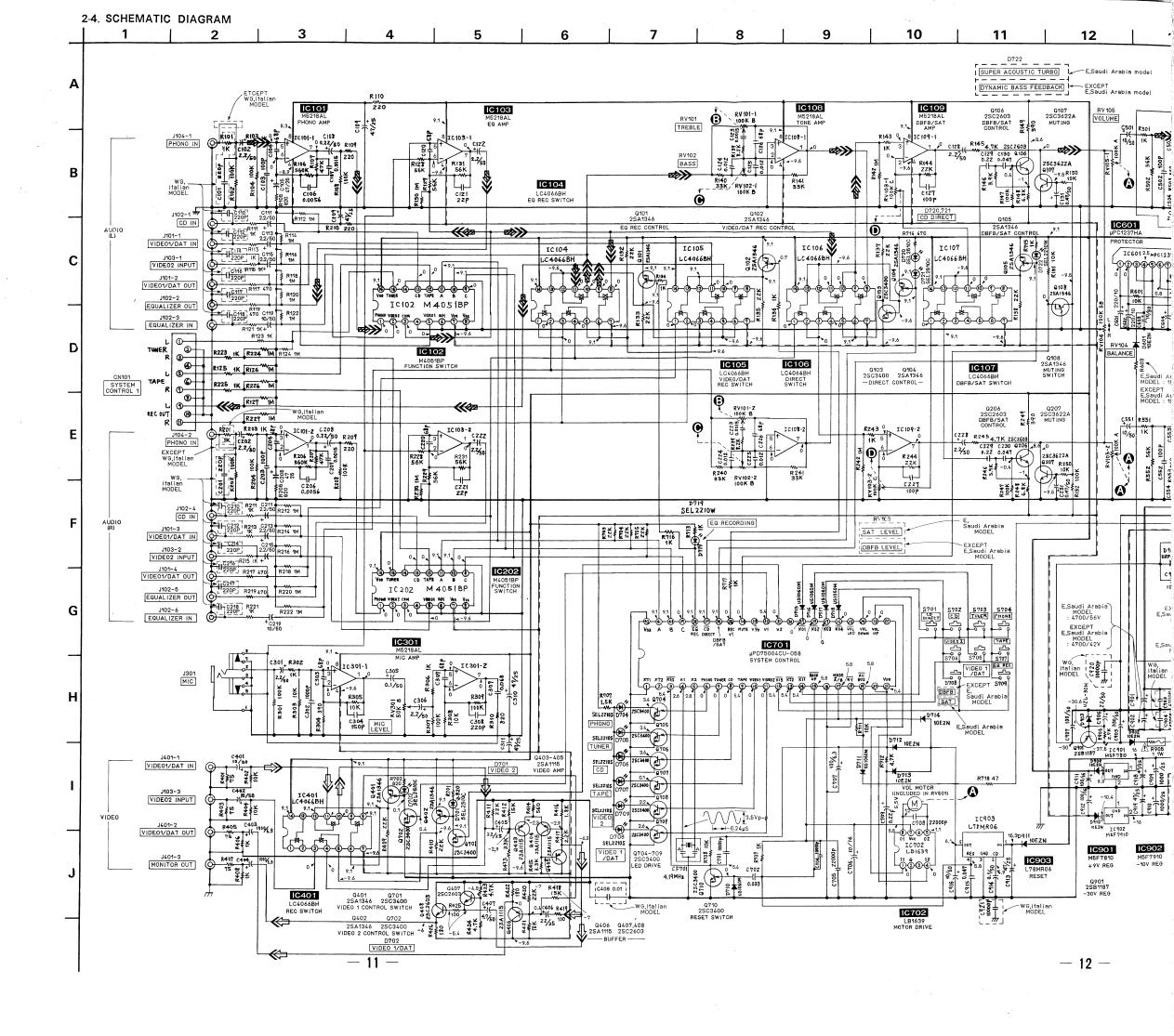
Note:

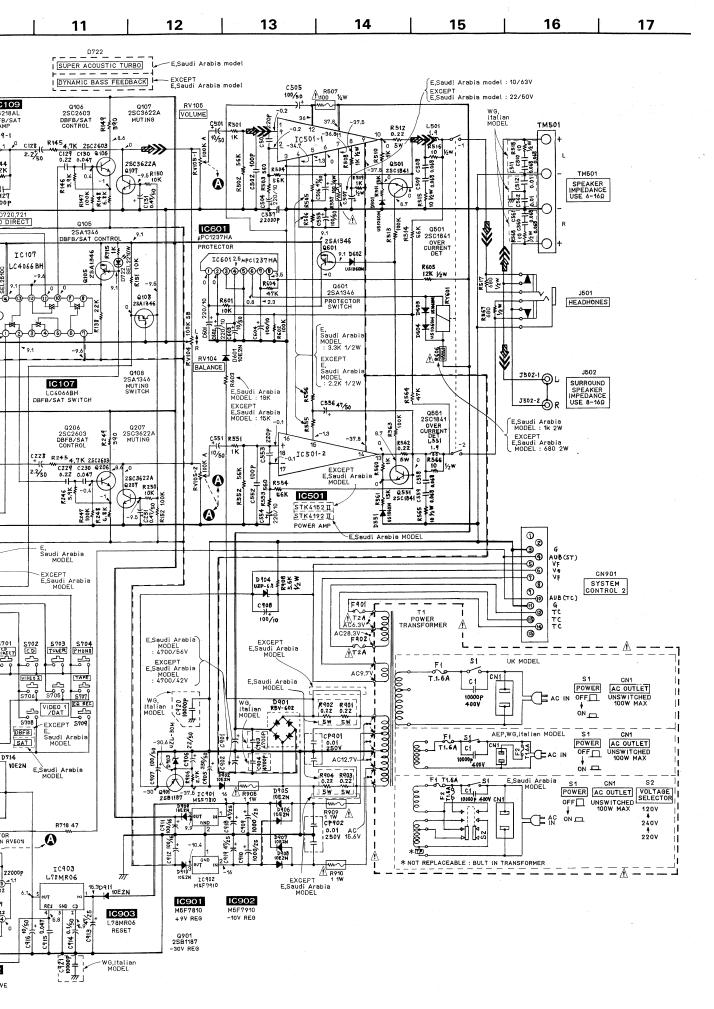
• O—: parts extracted from the component side.











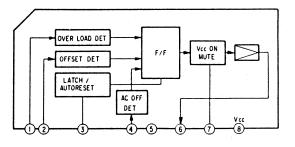
#### Note:

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1\!\!/_4W$  or less unless otherwise specified.
- · \_ : nonflammable resistor.
- : fusible resistor.

Note: The components identified by mark  $\bigwedge$  or dotted line with mark  $\bigwedge$  are critical for safety. Replace only with part number specified.

- : B+ Lin
- mar mar R line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance  $10M\,\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- · Signal path.
- : TV (PICTURE)
- **⊠⋙**: PHONO

# • IC BLOCK DIAGRAM IC601 μPC1237HA



# SECTION 3 EXPLODED VIEWS

#### NOTE:

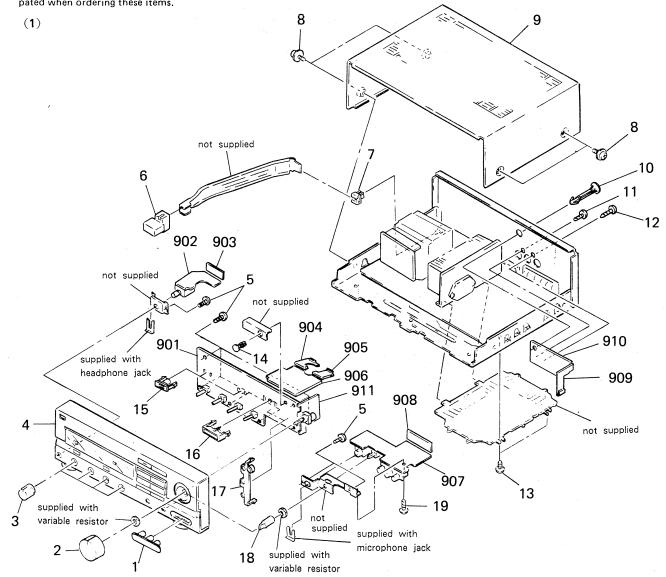
- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

(RED) ...KNOB, BALANCE (WHITE)

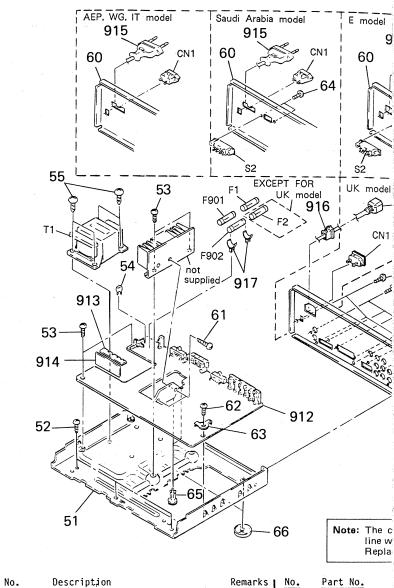
† †
Cabinet's Color Parts Color

The components identified by mark A or dotted line with mark A are critical for safety.
Replace only with part number specified.

**(2**)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	*4-937-367-01	COVER (PIN JACK)		15	*4-934-893-01	HOLDER, LED	,
2	4-929-288-22	KNOB (VOL 47)		16	*4-934-894-01	COVER, LAMP	
3	3-349-039-11	KNOB (VOL)		17	*4-934-892-01	HOLDER (FU), LED	
		• •		18	4-921-921-01	KNOB (M)	
4	X-4917-292-1 X-4917-293-1	(AEP,UK,WG,IT)PANEL ASSY, FRO (E,EA)PANEL ASSY, FRO		19	7-682-548-04	SCREW + BVTT 3X8 (S)	
				901	*A-4334-678-A	MOUNTED PCB, PANEL	
5	4-928-635-00	SCREW +BV 2.6X8 TAPPING		902	*1-635-010-11	PC BOARD, HEADPHONE	
6	4-921-919-01	BUTTON (P)	-	903	*1-635-016-11	PC BOARD, HEADPHONE CONNECTOR	
7	4-866-342-00	JOINT (B), KNOB		904	*1-635-013-11	PC BOARD, PANEL CONNECTOR (C)	
8	3-704-366-01	SCREW (CASE) (M3X8)		905	*1-635-012-11	PC BOARD, PANEL CONNECTOR (B)	
9	*4-919-379-61	CASE		906	*1-635-011-11	PC BOARD, PANEL CONNECTOR (A)	
10	*4-912-181-21	SUPPORT, PC		907	*1-635-008-11	DC DOADD MICDODUONE	
11	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		908	*1-635-014-11	PC BOARD, MICROPHONE PC BOARD, MICROPHONE CONNECTOR	
12	7-621-849-00	SCREW. TAPPING		909	*1-635-015-11	PC BOARD, VIDEO CONNECTOR	
13	7-682-547-09	SCREW +BVTT 3X6 (S)		910	*1-635-009-11	PC BOARD, VIDEO CONNECTOR PC BOARD, VIDEO	
14	4-812-134-11	RIVET NYLON, 3.5		911	*1-635-007-11	PC BOARD, MOTOR VOL	



No.	Part No.	Description	Remarks	No.	Part No.
51	*X-4917-246-1	CHASSIS ASSY		913	*1-635-005-11
52	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		914	*1-635-004-11
53	7-682-548-04	SCREW +BVTT 3X8 (S)			
54	2-269-321-00	COVER (DIA. 18), CAPACITOR	į	915	<b>1-556-562-00</b>
55	7-682-560-04	SCREW +BVTT 4X6 (S)	1		A.1-575-656-11
5.0	7 600 547 00	CODELL OUTT DVC (C)			<u></u> 1-575-654-11
56	7-682-547-09	SCREW +BVTT 3X6 (S)	İ	016	+2.702244-00
57 58	3-706-165-00 7-621-849-00	SCREW TARRING		916	*3-703-244-00 *3-703-571-11
59	1-535-706-11	SCREW, TAPPING (AEP,UK,WG,IT)PLUG, JUMPER			.^3-703-371-11
39	1-555-700-11	(ACF, OK, WG, 11)FLOG, OUMFER	l	917	*1-533-213-31
60	*4-937-301-11	(AEP)PANEL, BACK		317	1 333 213 31
00	*4-937-301-21	(UK)PANEL, BACK	·	CN1	A-1-526-751-00
	*4-937-301-31	(E)PANEL, BACK			A-1-526-794-11
	*4-937-301-41	(WG)PANEL, BACK		CNI	A.1-526-882-00
	*4-937-301-51	(EA)PANEL, BACK			
	*4-937-301-61	(IT)PANEL, BACK		F١	1-532-259-00
				F2	1-532-259-00
61	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3			<b>1-532-388-5</b> 1 <b>1-532-388-5</b> 1
62	7-682-547-04	SCREW +BV 3X6, S TIGHT		F902	<b>1-532-388-51 1 1-532-388-51 1 1 1 1 1 1 1 1 1 </b>
63	*3-346-266-12	PLATE, GROUND			
64	7-685-534-19	(E,EA)SCREW +BTP 2.6X8 TYPE2	N-S	S2	<u>A</u> .1-570-307-11
65	4-917-239-01	RIVET, NYLON		~3	
66	*4-934-883-01	FOOT		T1	A.1-450-022-11
912	*A-A22A-671 A	(ACD) MOUNTED DCD MAIN		71	<u>A</u> .1-450-023-11
912	*A-4334-671-A *A-4334-672-A	(AEP)MOUNTED PCB, MAIN			
	*A-4334-673-A	(UK)MOUNTED PCB, MAIN (E,EA)MOUNTED PCB, MAIN			
	*A-4334-674-A	(WG,IT)MOUNTED PCB, MAIN			
	"A 7334 "074 "A	(Ma, 11) PRODUCTED FOD, PIATR	1	ł	

# VEP, WG, IT model Saudi Arabia model E model 915 915 60 UK model AEP, UK, WG, IT model 60 Note: The components identified by mark $\bigwedge$ or dotted line with mark $\bigwedge$ are critical for safety. Replace only with part number specified. - 66

ption	Remarks	No.	Part No.	Description	Remarks
S ASSY +BVTP 3X8 TYPE2 N-S +BVTT 3X8 (S)		913 914	*1-635-005-11 *1-635-004-11	PC BOARD, TRANSFORMER CONNECTOR PC BOARD, POWER	
(DIA. 18), CAPACITOR +BVIT 4X6 (S)		915	<u>↑</u> 1-556-562-00 <u>↑</u> 1-575-656-11 <u>↑</u> 1-575-654-11	(UK)CORD, POWER (E)CORD, POWER (AEP,WG,IT,EA)CORD, POWER	
+BVTT 3X6 (S) TAPPING		916	*3-703-244-00 *3-703-571-11	(EXCEPT E)BUSHING (2104), CORD (E)BUSHING (S)(4516), CORD	
K,WG,IT)PLUG, JUMPER		917	*1-533-213-31	HOLDER, FUSE	
PANEL, BACK PANEL, BACK PANEL, BACK PANEL, BACK		CN1	⚠1-526-751-00 ⚠1-526-794-11 ⚠1-526-882-00	(UK)OUTLET, AC (AEP,WG,IT,EA)OUTLET, AC (E)OUTLET, AC	
PANEL, BACK PANEL, BACK		F2	⚠1-532-259-00 ⚠1-532-259-00	(EXCEPT UK)FUSE	
+BVTP 3X16 TYPE2 IT-3 +BV 3X6, S TIGHT GROUND			<u>A</u> ,1-532-388-51 <u>A</u> ,1-532-388-51	FUSE FUSE	
SCREW +BTP 2.6X8 TYPE2 NYLON	N-S	\$2	<u>↑</u> ,1-570-307-11	(E,EA)SWITCH, VOLTAGE CHANGE	
Treon		T1	<u>↑</u> 1-450-022-11 <u>↑</u> 1-450-023-11		
MOUNTED PCB, MAINMOUNTED PCB, MAINMOUNTED PCB, MAIN )MOUNTED PCB, MAIN					

# **SECTION 4 ELECTRICAL PARTS LIST**

#### NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS: MF: μF, PF: μμF.

- RESISTORS

   All resistors are in ohms.
- F: nonflammable

# COILS

• MMH: mH, UH: μΗ

# SEMICONDUCTORS

In each case, U: μ, for example: UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by mark A or dotted line with mark A are critical for safety.

Replace only with part number specified.

Ref.No.	Part No.	Description		Ref.No.	Part No.	Description			
901 902 903	*A-4334-678-A *1-635-010-11 *1-635-016-11	MOUNTED PCB, PANEL PC BOARD, HEADPHONE PC BOARD, HEADPHONE CONNECTOR	l .	C118 C119 C120 C121	1-162-286-31 1-126-059-11 1-162-219-31 1-162-207-31	(WG,IT)CE ELECT CERAMIC CERAMIC	RAMIC 220PF 10MF 68PF 22PF	10% 20% 5% 5%	50V 50V 50V 50V
904 905 906	*1-635-013-11 *1-635-012-11 *1-635-011-11	PC BOARD, PANEL CONNECTOR (C) PC BOARD, PANEL CONNECTOR (B) PC BOARD, PANEL CONNECTOR (A)		C122 C123 C124	1-126-161-11 1-130-473-00 1-130-484-00	ELECT MYLAR MYLAR	2.2MF 0.0015MF 0.012MF	20% 5% 5%	50V 50V 50V
907 908 909	*1-635-008-11 *1-635-014-11 *1-635-015-11	PC BOARD, MICROPHONE PC BOARD, MICROPHONE CONNECTO PC BOARD, VIDEO CONNECTOR	PR	C1 25 C1 26 C1 27	1-130-484-00 1-162-219-31 1-162-282-31		0.012MF 68PF 100PF	5% 5% 10%	50V 50V 50V
910 911	*1-635-009-11 *1-635-007-11	PC BOARD, VIDEO PC BOARD, MOTOR VOL		C128	1-124-257-00	ELECT	2.2MF	20%	50 V
. 912	*A-4334-671-A *A-4334-672-A	(AEP)MOUNTED PCB, MAIN (UK)MOUNTED PCB, MAIN		C129 C130	1-136-169-00 1-130-491-00	FILM MYLAR	0.22MF 0.047MF	5% 5%	50V 50V
	*A-4334-673-A *A-4334-674-A	(E,ÉA)MOUNTED PCB, MAIN (WG,IT)MOUNTED PCB, MAIN		C131 C201 C202	1-124-465-00 1-162-286-31 1-124-257-00	ELECT (WG,IT)CE ELECT	0.47MF RAMIC 220PF 2.2MF	20% 10% 20%	50V 50V 50V
913 914	*1-635-005-11 *1-635-004-11	PC BOARD, TRANSFORMER CONNECTO PC BOARD, POWER	R	C203 C204	1-162-282-31 1-162-219-31	CERAMIC CERAMIC	100PF 68PF	10% 5%	50V 50V
915	<u>ሉ</u> 1-556-562-00 <u>ሉ</u> 1-575-656-11	(UK)CORD, POWER (E)CORD, POWER		C205	1-124-910-11	ELECT	47MF	20%	25 V
916	*3-703-244-00	(AEP, WG, IT, EA)CORD, POWER (EXCEPT E)BUSHING (2104),		C206 C207 C208	1-130-480-00 1-130-473-00 1-124-464-11	MYLAR MYLAR ELECT	0.0056MF 0.0015MF 0.22MF	5% 5% 20%	50V 50V 50V
917	*3-703-571-11 *1-533-213-31	(E)BUSHING (S)(4516), HOLDER, FUSE	CURD	C209 C210	1-124-910-11 1-162-286-31	ELECT (WG,IT)CE	47MF RAMIC 220PF	20% 10%	25 V 50 V
BP1	*1-535-140-00	BASE POST 19MM (10MM PITCH) 3		C211	1-124-257-00	ELECT	2.2MF	20%	50V
BP2	*1-535-139-00 1-161-744-00	(UK,E,EA)BASE POST 19MM(10M CERAMIC 0.01MF	M PITCH)2P	C212 C213 C214	1-162-286-31 1-126-161-11 1-162-286-31	(WG,IT)CE ELECT (WG,IT)CE	2.2MF	10% 20% 10%	50V 50V 50V
C101 C102	1-162-286-31	(WG,IT)CERAMIC 220PF 10% ELECT 2.2MF 20%	50V 50V	C215	1-126-161-11	ELECT	2.2MF	20%	50V
C103 C104	1-162-282-31	CERAMIC 100PF 10% CERAMIC 68PF 5%	50 V 50 V	C216 C217	1-162-286-31 1-162-286-31	(WG,IT)CE (WG,IT)CE		10%	50V 50V
C105	1-124-910-11	ELECT 47MF 20%	25 V	C218 C219	1-162-286-31	(WG,IT)CE	1 OMF	10%	50V 50V
C106 C107 C108	1-130-480-00 1-130-473-00 1-124-464-11	MYLAR 0.0056MF 5% MYLAR 0.0015MF 5% ELECT 0.22MF 20%	50V 50V 50V	C220 C221	1-162-219-31	CERAMIC CERAMIC	68PF 22PF	5% 5%	50V 50V
C1 09	1-124-910-11	ELECT 47MF 20%	25 V	C222 C223	1-126-161-11 1-130-473-00	ELECT MYLAR	2.2MF 0.0015MF	20% 5%	50V 50V
C110	1-162-286-31 1-124-257-00	(WG,IT)CERAMIC 220PF 10% ELECT 2.2MF 20%	50V 50V	C224 C225	1-130-484-00 1-130-484-00	MYLAR MYLAR	0.012MF 0.012MF	5% 5%	50V 50V
C112	1-162-286-31	(WG,IT)CERAMIC 220PF 10% ELECT 2.2MF 20%	50V 50V	C226 C227	1-162-219-31	CERAMIC	68PF 100PF	5% 10%	50V
C114	1-162-286-31	(WG,IT)CERAMIC 220PF 10% ELECT 2.2MF 20%	50V 50V	C228 C229	1-124-257-00	ELECT FILM	2.2MF 0.22MF	20% 5%	50V 50V
C116 C117	1-162-286-31	(WG,IT)CERAMIC 220PF 10% (WG,IT)CERAMIC 220PF 10%	50V 50V	C230 C231 C301	1-130-491-00 1-124-465-00 1-126-161-11	MYLAR ELECT FLECT	0.047MF 0.47MF 2.2MF	5% 20% 20%	50V 50V 50V
				1 6301	, 120 101 11			-	

Ref.No.	Part No.	Description		- 1	Ref.No.	Part No.	Description			
C302 C303 C304	1-162-294-31 1-162-219-31 1-162-284-31	CERAMIC 68PF	10% 5% 10%	50V 50V 50V	C901 C901	1-126-258-11 1-126-224-11	(E,EA)ELECT (AEP,UK,WG,IT) ELECT		20% 20%	56V 42V
C305 C306 C307	1-124-463-00 1-126-161-11 1-162-219-31	ELECT 2.2MF 2	20% 20% 5%	50V 50V 50V	C902	1-126-258-11 1-126-224-11	(E,EA)ELECT (AEP,UK,WG,IT) ELECT	4700MF 4700MF	20% 20%	56V 42V
C308 C309 C310	1-162-286-31 1-130-493-00 1-124-910-11	MYLAR 0.068MF 5	10% 5% 20%	50V 50V 25V	C903 C904 C905	1-161-377-00 1-161-377-00 1-126-871-11	(WG,IT)CERAMIC (WG,IT)CERAMIC ELECT 330M	0.004		
C311 C401 C402	1-124-910-11 1-126-059-11 1-126-059-11	ELECT 18. 10MF 44 2	20% 20% 20%	25V 50V 50V	C906 C907 C908	1-126-233-11 1-124-122-11 1-124-994-11	ELECT 22MF ELECT 100M ELECT 100M	F	20% 20% 20%	50V 50V 10V
C403 C404 C405	1-124-471-00 1-124-471-00 1-126-049-11	ELECT 1000MF 2	20% 20% 20%	6.3V 6.3V 25V	C909 C910 C911	1-126-027-11 1-126-027-11 1-126-023-11	ELECT 1000 ELECT 1000 ELECT 100M	MF	20% 20% 20%	25 V 25 V 16 V
C406 C407 C408	1-126-049-11 1-124-045-00 1-136-153-00	ELECT 4.7MF 2	20% 20% 5%	25V 50V 50V	C912 C913 C914	1-126-023-11 1-124-910-11 1-124-463-00	ELECT 100M ELECT 47MF ELECT 0.1M		20% 20% 20%	16V 25V 50V
C501 C502 C503	1-126-059-11 1-162-282-31 1-162-286-31	CERAMIC 100PF 1	20% 10% 10%	50V 50V 50V	C915 C916 C918	1-130-491-00 1-126-059-11 1-124-910-11	MYLAR 0.04 ELECT 10MF ELECT 47MF	7MF	5% 20% 20%	50V 50V 25V
C504 C505 C506	1-126-101-11 1-124-122-11 1-124-910-11	ELECT 100MF 2	20%	10V 50V 50V	C919 C920 C921	1-124-910-11 1-136-153-00 1-136-153-00		0.01MF 0.01MF	20% 5% 5%	25 V 50 V 50 V
C507 C507	1-126-059-11 1-126-233-11	(AÉP,ÚK,WG,IT)		63V 50V		1-577-359-21	VIBRATOR, CERAMIC	•		
C508 C509 C510	1-130-493-00 1-130-493-00 1-130-493-00	MYLAR 0.068MF 5	5% 5%	50V 50V 50V	CNI A	.1-526-751-00 .1-526-794-11 .1-526-882-00	(UK)	OUTLET,	AC AC	NTDO: 1)
C511 C512	1-130-493-00	(WG,IT)MYLAR 0.068MF (WG,IT)CERAMIC 0.01MF	5%	50V 25V	CN301 *	1-565-969-11 1-565-972-11	SOCKET, CONNECTOR PIN, CONNECTOR (PI SOCKET, CONNECTOR	C BOARD)	13P	INTROL T
C551 C552 C553	1-126-059-11 1-162-282-31 1-162-286-31	ELECT 10MF 2 CERAMIC 100PF 1	%0% 0%	50V 50V 50V	CN451 *	1-565-969-11 1-565-972-11 1-565-967-11	PIN, CONNECTOR (POSOCKET, CONNECTOR PIN, CONNECTOR (PO	(PC BOAR	D)13P	
C554 C555	1-126-101-11	ELECT 220MF 2	20%	10V 50V	CN601 *	1-565-970-11	SOCKET, CONNECTOR PIN, CONNECTOR (PO	BOARD)	ŹP	* .
C556	1-124-910-11 1-161-494-00	ELECT 47MF 2	20%	50V 25V	CN701 *	1-565-346-11	PIN, CONNECTOR (PO	` C BOARD)	9P	
C558 C559	1-130-493-00 1-130-493-00	MYLAR 0.068MF 5	%	50V 50V	CN901 *		SOCKET, CONNECTOR SOCKET, CONNECTOR	15P (SY	STEM CO	INTROL 2)
C560	1-130-493-00	(WG,IT)MYLAR 0.068MF		50V			(EXCEPT UK)PIN			
C561 C562 C601	1-130-493-00 1-161-379-00 1-126-101-11	(WG,IT)MYLAR 0.068MF (WG,IT)CERAMIC 0.01MF ELECT 220MF	20%	50V 25V 10V		1-102-394-11	CERAMIC 0.01M			250V 250V
C602 C603 C604	1-126-101-11 1-126-059-11 1-124-994-11	ELECT 1 OMF 20	0% !	10V 50V 10V	D551	8-719-912-20	DIODE 1SS120 DIODE 1SS120 DIODE 10E2N			
C701 C702 C704	1-162-306-11 1-130-489-00 1-162-306-11	MYLAR 0.033MF 5	% !	16V 50V 16V	D603 D604	8-719-912-20 8-719-912-20	DIODE 1SS120 DIODE 1SS120 DIODE 1SS120			
C705 C706 C707	1-161-494-00 1-126-157-11 1-126-177-11	ELECT TOMF 20	0%	25V 16V 6.3V	0702	8-719-303-00	LED SEL2510C LED SEL2510C LED SEL2210S-C			
C708 C709	1-161-494-00 1-125-486-11	CERAMIC 0.022MF DOUBLE CAYERS 0.22F		25V 5.5V	D706 D707	8-719-301-38 8-719-301-38	LED SEL2210S-C LED SEL2210S-C LED SEL2210S-C LED SEL2210S-C			

Note: The components identified by mark  $\bigwedge$  or dotted line with mark  $\bigwedge$  are critical for safety. Replace only with part number specified.

			1 o.e.v.	Dont No	Description	
Ref.No.	Part No.	<u>Description</u>	Ref.No.	Part No.	Description	
D709 D710 D711 D712	8-719-301-38 8-719-912-20 8-719-912-20 8-719-200-77	LED SEL2210S-C DIODE 1SS120 DIODE 1SS120 DIODE 10E2N	Q101 Q102 Q103 Q104	8-729-900-63 8-729-900-63 8-729-900-36 8-729-900-63	TRANSISTOR DTA124ES TRANSISTOR DTA124ES TRANSISTOR DTC124ES TRANSISTOR DTA124ES	
D713 D714 D715	8-719-200-77 8-719-200-77 8-719-912-20	DIODE 10E2N DIODE 10E2N DIODE 1SS120	Q105 Q106 Q107	8-729-900-63 8-729-620-05 8-729-141-26	TRANSISTOR DTA124ES TRANSISTOR 2SC2603-EF TRANSISTOR 2SC3622A-LK	
D716 D717 D718	8-719-912-20 8-719-912-20 8-719-912-20	DIODE 1SS120 DIODE 1SS120 DIODE 1SS120	Q108 Q206 Q207	8-729-900-63 8-729-620-05 8-729-141-26	TRANSISTOR DTA124ES TRANSISTOR 2SC2603-EF TRANSISTOR 2SC3622A-LK	
D719 D720 D721	8-719-302-75 8-719-308-00 8-719-303-00	LED SEL2210W-D LED SEL2510C LED SEL2510C	Q401 Q402 Q403	8-729-900-63 8-729-900-63 8-729-119-76	TRANSISTOR DTA124ES TRANSISTOR DTA124ES TRANSISTOR 2SA1175-HFE	
D722 D901 D902	8-719-302-75 8-719-302-38 8-719-200-77	LED SEL2210W-D DIODE RBV-602-01 DIODE 10E2N	Q404 Q405 Q406	8-729-119-76 8-729-119-76 8-729-119-76	TRANSISTOR 2SAll75-HFE TRANSISTOR 2SAll75-HFE TRANSISTOR 2SAll75-HFE	
D903 D904 D905	8-719-934-22 8-719-014-88 8-719-200-77	ZENER DIODE HZS30-2L ZENER DIODE UZP-6.8BC DIODE 10E2N	Q407 Q408 Q501	8-729-620-05 8-729-620-05 8-729-140-84	TRANSISTOR 2SC2603-EF TRANSISTOR 2SC2603-EF TRANSISTOR 2SC1841-PAFAEA	
D906 D907 D908	8-719-200-77 8-719-200-77 8-719-200-77	DIODE 10E2N DIODE 10E2N DIODE 10E2N	Q551 Q601 Q701	8-729-140-84 8-729-900-63 8-729-900-36	TRANSISTOR 2SC1841-PAFAEA TRANSISTOR DTA124ES TRANSISTOR DTC124ES	
D909 D910 D911	8-719-200-77 8-719-200-77 8-719-200-77	DIODE 10E2N DIODE 10E2N DIODE 10E2N	0702 0704 0705	8-729-900-36 8-729-900-36 8-729-900-36	TRANSISTOR DTC123ES TRANSISTOR DTC124ES TRANSISTOR DTC124ES	
F2 /	1-532-259-00 1-532-259-00 1-532-388-51 1-532-388-51	FUSE (EXCEPT UK)FUSE FUSE FUSE	0706 0707 0708	8-729-900-36 8-729-900-36 8-729-900-36	TRANSISTOR DTC124ES TRANSISTOR DTC124ES TRANSISTOR DTC124ES	
IC101 IC102	8-759-634-50 8-759-208-06 8-759-634-50	IC M5218AL IC TC4051BPHB IC M5218AL	0709 0710 0901	8-729-900-36 8-729-900-36 8-729-920-97	TRANSISTOR DTC124ES TRANSISTOR DTC124ES TRANSISTOR 2SB1187-EF	
	8-759-800-37 8-759-800-37 8-759-800-37	IC LC4066BH IC LC4066BH IC LC4066BH	R101 R102 R103	1-249-417-11 1-249-441-11 1-249-417-11	(WG,IT)CARBON 1K CARBON 100K 5% CARBON 1K 5%	5% 1/4W 1/4W 1/4W
10108	8-759-800-37 8-759-634-50 8-759-634-50	IC LC4066BH IC M5218AL IC M5218AL	R104 R105 R106	1-249-441-11 1-249-416-11 1-247-897-11	CARBON 100K 5% CARBON 820 5% CARBON 560K 5%	1/4W 1/4W 1/4W
IC202 IC301	8-759-208-06 8-759-634-50	IC TC4051BPHB IC M5218AL IC LC4066BH	R107 R108 R109	1-249-437-11 1-249-441-11 1-249-409-11	CARBON 47K 5% CARBON 100K 5% CARBON 220 5%	1/4W 1/4W 1/4W
IC501 IC501	8-749-900-78 8-749-941-52	(E,EA)IC STK4192II (AEP,UK,WG,IT)IC STK4152II	R110 R111 R112	1-249-409-11 1-249-417-11 1-247-903-00	CARBON 220 5% CARBON 1K 5% CARBON 1M 5%	1/4W 1/4W 1/4W
IC601 IC701 IC702	8-759-111-68 8-759-149-27 8-759-820-62	IC UPC1237HA IC UPD75004CU-058 IC LB1639	R113 R114 R115	1-249-417-11 1-247-903-00 1-249-417-11	CARBON 1K 5% CARBON 1M 5% CARBON 1K 5%	1/4W 1/4W 1/4W
IC901 IC902 IC903	8-759-604-32 8-759-604-50 8-759-820-13	1C M5F7810L 1C M5F7910L 1C L78MR06	R116 R117 R118	1-247-903-00 1-249-413-11 1-247-903-00	CARBON 1M 5% CARBON 470 5% CARBON 1M 5%	1/4W 1/4W 1/4W
J101 J102 J103 J104	1-565-258-11 1-565-320-11 *1-563-136-41 1-565-352-11	JACK, PIN 4P (VIDEO 1/DAT) JACK, PIN 6P (CD, EQUALIZER) JACK, PIN 3P (VIDEO 2) JACK, PIN 2P (PHONO)	R119 R120 R121	1-249-413-11 1-247-903-00 1-249-417-11	CARBON 470 5% CARBON 1M 5% CARBON 1K 5%	1/4W 1/4W 1/4W
J301 J401 J501	1-568-018-11 1-565-933-11 1-568-018-11	JACK, LARGE TYPE IP (MIC)  JACK, PIN 3P (VIDEO 1/DAT,MONITOR)  JACK, LARGE TYPE IP (HEADPHONES)	R122 R123 R124	1-247-903-00 1-249-417-11 1-247-903-00 1-249-417-11	CARBON 1M 5% CARBON 1K 5% CARBON 1M 5%  CARBON 1K 5%	1/4W 1/4W 1/4W
	1-565-352-11 *1-420-872-00 *1-420-872-00	JACK, PIN 2P (SURROUND SPEAKER)  COIL, AIR CORE  COIL, AIR CORE	R125 R126 R127	1-247-903-00	CARBON 1M 5% CARBON 1M 5%	1/4W 1/4W
					A	

Note: The components identified by mark A or dotted line with mark A are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description					
R128 R129 R130	1-249-438-11 1-249-438-11 1-247-903-00	CARBON CARBON CARBON	56K 56K 1M	5% 5% 5%	1/4W 1/4W 1/4W	R240 R241 R242	1-249-435-11 1-249-435-11 1-247-903-00	CARBON CARBON CARBON	33K 33K 1M	5% 5% 5%	1/4W 1/4W 1/4W		
R131 R132 R133	1-249-438-11 1-249-433-11 1-249-433-11	CARBON CARBON CARBON	56K 22K 22K	5% 5% 5%	1/4W 1/4W 1/4W	R243 R244 R245	1-249-417-11 1-249-433-11 1-249-425-11	CARBON CARBON CARBON	1 K 22 K 4.7 K	5% 5% 5%	1/4W 1/4W 1/4W		
R134 R135 R136	1-249-417-11 1-249-433-11 1-249-417-11	CARBON CARBON CARBON	1 K 22 K 1 K	5% 5% 5%	1/4W 1/4W 1/4W	R246 R247 R248	1-249-424-11 1-249-441-11 1-249-427-11	CARBON CARBON CARBON	3.9K 100K 6.8K	5% 5% 5%	1/4W 1/4W 1/4W		
R137 R138 R139	1-249-433-11 1-249-433-11 1-249-428-11	CARBON CARBON CARBON	22K 22K 8.2K	5% 5% 5%	1/4W 1/4W 1/4W	R249 R250 R301	1-249-412-11 1-249-429-11 1-249-441-11	CARBON CARBON CARBON	390 10K 100K	5% 5% 5%	1/4W 1/4W 1/4W		
R140 R141 R142	1-249-435-11 1-249-435-11 1-247-903-00	CARBON CARBON CARBON	33K 33K 1M	5% 5% 5%	1/4W 1/4W 1/4W	R302 R303 R304	1-249-417-11 1-249-429-11 1-249-412-11	CARBON CARBON CARBON	1 K 1 0 K 3 9 O	5% 5% 5%	1/4W 1/4W 1/4W		
R143 R144 R145	1-249-417-11 1-249-433-11 1-249-425-11	CARBON CARBON CARBON	1 K 22 K 4.7 K	5% 5% 5%	1/4W 1/4W 1/4W	R305 R306 R307	1-249-429-11 1-249-417-11 1-249-441-11	CARBON CARBON CARBON	10K 1K 100K	5% 5% 5%	1/4W 1/4W 1/4W		
R146 R147 R148	1-249-424-11 1-249-441-11 1-249-427-11	CARBON CARBON CARBON	3.9K 100K 6.8K	5% 5% 5%	1/4W 1/4W 1/4W	R308 R309 R310	1-249-429-11 1-249-441-11 1-249-416-11	CARBON CARBON CARBON	10K 100K 820	5% 5% 5%	1/4W 1/4W 1/4W		
R149 R150 R151	1-249-412-11 1-249-429-11 1-249-429-11	CARBON CARBON CARBON	390 10K 10K	5% 5% 5%	1/4W 1/4W 1/4W	R401 R402 R403	1-247-804-11 1-249-429-11 1-247-804-11	CARBON CARBON CARBON	75 10K 75	5% 5% 5%	1/4W 1/4W 1/4W		
R152 R201 R202	1-249-441-11 1-249-417-11 1-249-441-11	CARBON (WG,IT)CAR CARBON	100K 180N 100K	5% 1K 5%	1/4W 5% 1/4W 1/4W	R404 R405 R406	1-249-429-11 1-247-804-11 1-249-417-11	CARBON CARBON CARBON	10K 75 1K	5% 5% 5%	1/4W 1/4W 1/4W		
R203 R204 R205	1-249-417-11 1-249-441-11 1-249-416-11	CARBON CARBON CARBON	1 K 100 K 820	5% 5% 5%	1/4W 1/4W 1/4W	R407 R408 R409	1-247-804-11 1-249-417-11 1-249-433-11	CARBON CARBON CARBON	75 1 K 22 K	5% 5% 5%	1/4W 1/4W 1/4W		
R206 R207 R208	1-247-897-11 1-249-437-11 1-249-441-11	CARBON CARBON CARBON	560K 47K 100K	5% 5% 5%	1/4W 1/4W 1/4W	R410 R411 R412	1-249-433-11 1-249-433-11 1-249-431-11	CARBON CARBON CARBON	22K 22K 15K	5% 5% 5%	1/4W 1/4W 1/4W		
R209 R210 R211	1-249-409-11 1-249-409-11 1-249-417-11	CARBON CARBON CARBON	220 220 1K	5% 5% 5%	1/4W 1/4W 1/4W	R413 R414 R415	1-249-435-11 1-249-414-11 1-249-423-11	CARBON CARBON CARBON	33K 560 3.3K	5% 5% 5%	1/4W 1/4W 1/4W		
R212 R213 R214	1-247-903-00 1-249-417-11 1-247-903-00	CARBON CARBON CARBON	1M 1K 1M	5% 5% 5%	1/4W 1/4W 1/4W	R416 R417 R418	1-249-420-11 1-249-421-11 1-249-431-11	CARBON CARBON CARBON	1.8K 2.2K 15K	5% 5% 5%	1/4W 1/4W 1/4W		
R215 R216 R217	1-249-417-11 1-247-903-00 1-249-413-11	CARBON CARBON CARBON	1K 1M 470	5% 5% 5%	1/4W 1/4W 1/4W	R419 R420 R421	1-249-405-11 1-249-433-11 1-249-432-11	CARBON CARBON CARBON	100 22K 18K	5% 5% 5%	1/4W 1/4W 1/4W		
R218 R219 R220	1-247-903-00 1-249-413-11 1-247-903-00	CARBON CARBON CARBON	1M 470 1M	5% 5% 5%	1/4W 1/4W 1/4W	R422 R423 R424	1-249-408-11 1-249-425-11 1-249-425-11	CARBON CARBON CARBON	180 4.7K 4.7K	5% 5% 5%	1/4W 1/4W 1/4W		
R221 R222 R223	1-249-417-11 1-247-903-00 1-249-417-11	CARBON CARBON CARBON	1K 1M 1K	5% 5% 5%	1/4W 1/4W 1/4W	R425 R426 R501	1-249-405-11 1-249-408-11 1-249-417-11	CARBON CARBON CARBON	100 180 1K	5% 5% 5%	1/4W 1/4W 1/4W		
R224 R225 R226	1-247-903-00 1-249-417-11 1-247-903-00	CARBON CARBON CARBON	1M 1K 1M	5% 5% 5%	1/4W 1/4W 1/4W	R502 R503 R504	1-249-438-11 1-249-414-11 1-249-438-11	CARBON CARBON CARBON	56K 560 56K	5% 5% 5%	1/4W 1/4W 1/4W		
R227 R228 R229	1-247-903-00 1-249-438-11 1-249-438-11	CARBON CARBON CARBON	1M 56K 56K	5% 5% 5%	1/4W 1/4W 1/4W	R505 R505	1-247-756-11	(AEP,UK,WG,IT (E,EA)	CAR	RBON	3.3K	5% l, 5% l,	/2W
R230 R231 R239	1-247-903-00 1-249-438-11 1-249-428-11	CARBON CARBON CARBON	1M 56K 8.2K	5% 5% 5%	1/4W 1/4W 1/4W	R506 R506	1-247-756-11 1-247-758-11	(AEP,UK,WG,IT (E,EA)				5% 1, 5% 1,	,

Ref.No. Part No.	Description	Ref.No. Part No.	Description
R507 A,1-212-881-11 R508 1-247-752-11 R509 1-247-752-11	FUSIBLE 100 5% 1/4W F CARBON 1K 5% 1/2W CARBON 1K 5% 1/2W	R708 1-249-429-11 R709 1-249-417-11 R711 1-249-429-11	CARBON 10K 5% 1/4W CARBON 1K 5% 1/4W CARBON 10K 5% 1/4W
R510 1-249-417-11 R511 1-249-431-11 R512 1-217-156-00	CARBON 1K 5% 1/4W CARBON 15K 5% 1/4W METAL PLATE 0.22 10% 5W	R712 1-249-425-11 R713 1-249-417-11 R714 1-249-413-11	CARBON 4.7K 5% 1/4W CARBON 1K 5% 1/4W CARBON 47O 5% 1/4W
R513 1-249-441-11 R514 1-249-438-11 R515 1-247-727-11	CARBON 100K 5% 1/4W CARBON 56K 5% 1/4W CARBON 10 5% 1/2W	R715 1-249-417-11 R716 1-249-417-11 R717 1-249-417-11	CARBON 1K 5% 1/4W CARBON 1K 5% 1/4W CARBON 1K 5% 1/4W
R516 1-247-727-11 R517 1-247-750-11 R518 1-247-727-11	CARBON 10 5% 1/2W CARBON 680 5% 1/2W (WG,IT)CARBON 10 5% 1/2W	R718 1-249-401-11 R901 1-217-156-00 R902 1-217-156-00	CARBON 47 5% 1/4W (E,EA)METAL PLATE 0.22 10% 5W (E,EA)METAL PLATE 0.22 10% 5W
R551 1-249-417-11 R552 1-249-438-11 R553 1-249-414-11	CARBON 1K 5% 1/4W CARBON 56K 5% 1/4W CARBON 56O 5% 1/4W CARBON 56K 5% 1/4W	R903 1-217-156-00 R904 1-217-156-00 R905 A.1-217-469-00	(E,EA)METAL PLATE 0.22 10% 5W (E,EA)METAL PLATE 0.22 10% 5W FUSIBLE 1 5% 1W F
R554 1-249-438-11 R555 1-247-756-11 R555 1-247-758-11	CARBON 56K 5% 1/4W  (AEP,UK,WG,IT)CARBON 2.2K 5% 1/2W (E,EA)CARBON 3.3K 5% 1/2W	R906 1-249-422-11 R908 <u>A</u> 1-247-761-11 R909 <u>A</u> 1-217-469-00 R910 <u>A</u> 1-217-469-00	CARBON 2.7K 5% 1/4W CARBON 5.6K 5% 1/2W FUSIBLE 1 5% 1W F FUSIBLE 1 5% 1W F
R556 1-247-756-11 R556 1-247-758-11	(AEP,UK,WG,IT)CARBON 2.2K 5% 1/2W (E,EA)CARBON 3.3K 5% 1/2W FUSIBLE 100 5% 1/4W F	RV101 1-238-978-11 RV102 1-238-978-11 RV103 1-238-977-11	RES, VAR, CARBON 100KX2 (TREBLE) RES, VAR, CARBON 100KX2 (BASS) RES, VAR, CARBON 100KX2(SAT/DBFB LEVEL)
R557 A.1-212-881-11 R560 1-249-417-11 R561 1-249-431-11	CARBON 1K 5% 1/4W CARBON 15K 5% 1/4W	RV104 1-238-459-11 RV105 1-238-870-11 RV301 1-238-744-11	RES, VAR, CARBON 100K (BALANCE) RES, VAR, CARBON (MOTOR)100KX2(VOLUME) RES, VAR, CARBON, 50K (MIC LEVEL)
R562 1-217-156-00 R563 1-249-441-11 R564 1-249-437-11	METAL PLATE 0.22 10% 5W CARBON 100K 5% 1/4W CARBON 47K 5% 1/4W	RY601 1-515-765-11	RELAY
R565 1-247-727-11 R566 1-247-727-11 R567 1-247-750-11	CARBON 10 5% 1/2W CARBON 10 5% 1/2W CARBON 680 5% 1/2W	S1 1-554-920-11 S2 1-570-307-11 S701 1-554-303-21	SWITCH, PUSH (AC POWER)(1 KEY) (E,EA)SWITCH, VOLTAGE CHANGE SWITCH, KEY BOARD (CD DIRECT)
R568 1-247-727-11 R601 1-249-429-11 R602 1-249-441-11	(WG,IT)CARBON 10 5% 1/2W CARBON 10K 5% 1/4W CARBON 10OK 5% 1/4W	\$702 1-554-303-21 \$703 1-554-303-21 \$704 1-554-303-21	SWITCH, KEY BOARD (CD) SWITCH, KEY BOARD (TUNER) SWITCH, KEY BOARD (PHONO)
R603 1-249-431-11 R603 1-249-432-11	(AEP,UK,WG,IT)CARBON 15K 5% 1/4W (E,EA)CARBON 18K 5% 1/4W	\$705 1-554-303-21 \$706 1-554-303-21 \$707 1-554-303-21	SWITCH, KEY BOARD (VIDEO 2) SWITCH, KEY BOARD (VIDEO 1/DAT) SWITCH, KEY BOARD (TAPE)
R604 1-249-437-11 R605 1-249-486-11	CARBON 47K 5% 1/4W CARBON 12K 5% 1/2W	\$708 1-554-303-21 \$709 1-554-303-21	SWITCH, KEY BOARD (SAT/DBFB) SWITCH, KEY BOARD (EQ REC)
R606 <b>1</b> -215-891-11 R606 <b>1</b> -215-892-11	(AEP,UK,WG,IT)METAL OXIDE 680 5% 2W F (E,EA)METAL OXIDE 1K 5% 2W F	T1	(AEP,UK,WG,IT)TRANSFORMER, POWER (E,EA)TRANSFORMER, POWER
R701 1-249-416-11 R702 1-249-416-11 R703 1-249-433-11	CARBON 820 5% 1/4W CARBON 820 5% 1/4W CARBON 22K 5% 1/4W	TM501 1-537-238-11	TERMINAL BOARD (SPEAKER)
R704 1-249-433-11 R705 1-249-433-11 R707 1-249-419-11	CARBON 22K 5% 1/4W CARBON 22K 5% 1/4W CARBON 1.5K 5% 1/4W		

Note: The components identified by mark  $\bigwedge$  or dotted line with mark  $\bigwedge$  are critical for safety. Replace only with part number specified.